

ABSTRACT

A power generation system is disclosed. In one embodiment, the power generation system includes a fuel source, a turbogenerator coupled to the fuel source, and a power controller coupled to the turbogenerator. The power controller includes an AC/DC power converter that converts AC power generated by the turbogenerator to DC power on output lines for supplying a DC load. The power controller regulates the fuel to the turbogenerator, independent of a DC voltage on the output lines. A capacitor such as an electrochemical capacitor or a hybrid capacitor, coupled across the output lines, sources power to and/or sinks power from the output lines due to load changes by the DC load. In a further embodiment, the power controller includes an additional DC/DC power converter. In yet a further embodiment, the power controller includes a second additional DC/DC power converter to controllably couple the capacitor to a DC bus.